

Enacted: February 4, 2009

Supervisors' Vote: "Aye" Powers, Dean, Crigler, Miller; "Abstain" Arrington

**ORDINANCE**  
**TO ESTABLISH REGULATIONS FOR THE SITING OF WIRELESS COMMUNICATIONS AND**  
**RELATED FACILITIES IN MADISON COUNTY, VIRGINIA**  
**ORDINANCE #2009-3**

WHEREAS, the Madison County Board of Supervisors and Planning Commission desire to enhance the ability of the citizens of Madison to have access to wireless broadband and other wireless communications facilities, while at the same time ensuring the orderly use and development of land within the County consistent with the goals and objectives of the County's Comprehensive Plan; and

WHEREAS, the Board of Supervisors finds and determines that the regulations set forth within this ordinance will serve the public necessity, convenience, general welfare and good zoning practice; and

WHEREAS, the Board of Supervisors, by adopting this ordinance, exercises the authority given by the Code of Virginia Title 15.2, Chapter 22, Article 7, §§15.2-2280 to 15.2-2316 to further the zoning purposes set forth in §15.2-2283, as may be applicable; the power given by Chapter 22, Article 3, §15.2-2224 to implement the County's comprehensive plan; and the general powers conferred by Chapter 12, Article 1, §15.2-1200 to secure and promote the health, safety and general welfare of the County's inhabitants;

NOW THEREFORE, be it ordained that of the Zoning Ordinance of Madison County, Virginia, is hereby amended to add Section 14-13, as follows:

**14-13. Wireless Communications Facilities**

**14-13-1. Purpose and goals.**

The purpose of this ordinance is to establish guidelines for the siting of wireless communications facilities (WCF). The goals of this ordinance are to:

- (A) minimize the total number of freestanding antenna support structures throughout the County, by maximizing the use of existing support structures,
- (B) ~~promote~~ strongly encourage the joint use of new and existing WCF sites,
- (C) ~~promote~~ strongly encourage the owners and operators of WCFs to locate them, to the extent possible, in areas where the adverse impact on the County is minimal,
- (D) ~~Restrict~~ Limit the location of freestanding antenna support structures that detract from the natural beauty of the mountains in scenic qualities of Madison County,
- (E) encourage the owners and operators of WCFs to locate and configure them in a way that minimizes the adverse visual impact on the landscape and adjacent properties, and
- (F) enhance the ability of wireless communications providers to provide such services ~~to the community~~ efficiently and effectively to residents and visitors of Madison County.

**14-13-2. Applicability.**

(A) *Generally.* The requirements set forth in this ordinance shall govern the location of WCFs installed in any zoning district.

(B) *Amateur Radio; Receive-Only Antennas.* This ordinance shall not apply to any amateur radio antenna or support structure having a combined height of less than 200 feet, or any receive-only antenna and its support structure used for non-commercial purposes.

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(C) *Emergency facilities.* This ordinance shall not apply to a temporary, commercial WCF, upon the declaration of a state of emergency by federal, state or County government, for the duration of the emergency and for a period of up to three months thereafter. Any such WCF must comply with all federal and state requirements.

(D) *Special events.* This ordinance shall not apply to a temporary, commercial WCF established for the purpose of providing coverage of a special event (such as news coverage or a sporting event), for the duration of the event and for a period of up to one week thereafter. Any such WCF must comply with all federal and state requirements.

#### **14-13-3. Permitted Uses.**

The following are deemed to be uses permitted by right in every zoning district, provided that they meet the requirements of Section 14-13-6:

- (A) Installation of a new freestanding WCF less than 100 feet or less in height;
- (B) Installation of a concealed WCF;
- (C) Installation of an attached WCF, including installation of a WCF on a telephone or electric utility company's existing utility pole or on an existing light stanchion, provided that the top of the attached WCF is no more than 20 feet above the building or structure to which it will be attached;
- (D) Mitigation of an existing WCF, except in circumstances where the mitigation of an existing un-illuminated WCF results in a WCF that is required to be illuminated;
- (E) An antenna co-located or combined on an existing support structure of any height, provided that: (i) the addition of said antenna adds no more than twenty (20) feet to the height of the existing support structure; (ii) the addition of the antenna does not require expansion of the footprint of the support structure or the associated equipment compound; and (iii) the equipment compound shall be brought into compliance with applicable landscaping requirements; and
- (F) Replacement of an antenna, antenna element, or support structure, where such device or structure will be replaced with another that is of identical or reduced size and weight, and has identical or reduced wind load properties.

#### **14-13-4. Uses Requiring a Special Use Permit**

Except as provided in Section 14-13-3, a WCF shall be allowed only by special use permit.

#### **14-13-5. Alternatives hierarchy.**

The following is a listing, in order of preference, of the types WCF facilities preferred by the County:

- (1) Attached WCFs
- (2) WCFs co-located or combined on an existing WCF
- (3) Mitigation of an existing WCF
- (4) Concealed freestanding WCF
- (5) Non-concealed WCF.

#### **14-13-6. General Requirements.**

The requirements set forth in this section shall apply with respect to the location of each WCF governed by this ordinance:

*(A) Authorization and approvals required.*

- (i) Any WCF permitted by right under this ordinance must be authorized pursuant to a written verification of the zoning administrator that the facility will meet all applicable requirements of this ordinance, and no building permit shall be issued for any WCF until this verification has been provided. Such verification shall be provided by the zoning administrator within a reasonable time after receipt of all required application materials, not to exceed 60 days. If the zoning administrator determines that a WCF fails to meet the requirements of this ordinance, then the zoning administrator shall provide written notice to the applicant, identifying which requirements are not satisfied, and shall give the applicant an opportunity to provide additional information demonstrating compliance. If such additional information is not provided within ten (10) days then the zoning administrator's determination of noncompliance shall become final. Appeals from a decision of the zoning administrator shall be to the Board.
- (ii) The approval of a WCF that is subject to the requirement of a special use permit shall be governed by the process set forth in section 14-3 of the zoning ordinance. Additionally:
  - a- In determining whether a WCF is in harmony with the surrounding area, and whether the WCF will have an adverse impact on adjacent properties, the County will consider the aesthetic impacts of the WCF in addition to other relevant factors.
  - b- The County may condition approval on changes in WCF height, design, style, buffers, or other features of the WCF, or on changes to the surrounding area. Such changes need not result in performance identical to that of the original application.
  - c- Factors relevant to consideration aesthetic effects include: protection of the view in sensitive or particularly scenic areas; protection of the view from unique natural features; scenic roadways and historic sites; the concentration of WCFs in the vicinity of the proposed WCF; and whether the height, design, placement or other characteristics of a proposed WCF could be modified to have a less intrusive visual impact.
  - d- If the County determines that the proposed additional service, coverage or capacity to be achieved by a proposed new WCF can be achieved by use of one or more existing WCFs, it may disapprove the proposed WCF application.
- (iii) Prior to issuance of a building permit, the following shall be provided to the building official with respect to any support structure ~~400 feet or more~~ 100 feet in height:
  - a- a structural analysis of the proposed support structure prepared by an engineer, indicating the proposed and future loading capacity of the antenna structure; and
  - b- proof of compliance with Subpart C of Federal Aviation Regulations, Part 77, "Objects Affecting Navigable Airspace," or a certification that such regulations are not applicable.
- (iv) The County reserves the right to require a supplemental review for any WCF, in order to determine whether the WCF meets the requirements of this ordinance, subject to the following:
  - a- Due to the complexity of the methodology or analysis required to review an application for a wireless communication facility, the County may require the applicant to pay for a technical review by a third-party expert, the cost of which shall be borne by the applicant in addition to other applicable fees, not to exceed two-and-one-half times the amount of the applicable zoning application fee.

- b- Based on the results of the expert review, the County may require changes to the applicant's application or submissions.
  - c- A supplemental review may address any or all of the following: (1) the accuracy and completeness of the application and accompanying information; (2) the applicability of analysis techniques and methodologies; (3) the validity of conclusions reached; (4) whether the proposed WCF complies with applicable approval criteria; (5) other analysis deemed by the County to be relevant to determining whether a proposed WCF complies with the requirements of this ordinance.
- (v) Whenever a third party desires to co-locate on any support structure approved under this section, the support structure owner shall notify the zoning administrator, in writing, of the proposed co-location and of the proposed antenna mounting height on the support structure. The County shall have a right of first refusal to lease the co-location space, rent free, for emergency communications purposes, provided adequate space and structural capacity exists for the County's proposed use. The County must exercise this right by written notice within 30 days of receiving notice of the proposed co-location.
- (B) *Visibility.* Each WCF and related buildings, structures and equipment shall be configured and located in a manner that shall minimize adverse visual impacts on the landscape and adjacent properties.
- (i) Each WCF shall be designed to be compatible with the height, scale, color and texture of existing structures and landscapes, as applicable.
  - (ii) Each new antenna shall be flush-mounted, unless it is demonstrated through radio frequency propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area.
  - (iii) An attached WCF shall be designed to complement the façade, roof, wall or other portion of the building structure to which it is affixed, so it blends with the existing design, color and texture of the structure.
- (C) *Height.* Each WCF shall be of the least height necessary to meet the needs of the geographic area to be served by the facility, not to exceed 199 feet, except that in R-1, R-2 and R-3 zoning districts the maximum height of a WCF shall be 125 feet. Height calculations shall include above-ground foundations, but shall exclude lightening rods and lights required by the FAA which do not provide any support for antennas. In the event an applicant provides indisputable technical data demonstrating that a WCF service area would be so substantially compromised that there would be a requirement of additional WCFs within a distance of 2 miles, then the County may approve additional height. Each WCF that exceeds 199 feet in height shall be subject to a requirement that the WCF shall be designed to allow for a future reduction of elevation to no more than 199 feet, or the replacement of the WCF with a monopole- type support structure at such time as the wireless network has developed to the point that a height of 199 feet or less can be justified
- (D) *Monopoles preferred.* Each freestanding, non-concealed WCF shall utilize a monopole support structure or utility pole. Upon request of an applicant, the County may approve a different type of support structure if the applicant demonstrates to the satisfaction of the County through the submission of technical data that a monopole structure is not appropriate to accommodate the intended uses.
- (E) *Design for co-location.*
- (i) Each freestanding WCF up to 120 feet in height shall be engineered and constructed to accommodate no fewer than 3 co-located WCFs.
  - (ii) Each freestanding WCF that is 121 up to 150 feet in height shall be engineered and constructed to accommodate no fewer than 4 co-located WCFs.

- (iii) Each freestanding WCF that is 151 or more feet in height shall be engineered and constructed to accommodate no fewer than 6 WCFs.
  - (F) *Grading.* Grading shall be minimized and shall be limited to the area necessary for the new WCF and associated equipment compound and fencing.
  - (G) *Lighting.* Lighting of a WCF shall comply with the following:
    - (i) There shall be no lighting of any WCF except as specifically required by federal statute or FAA regulations
    - (ii) All FAA required lighting shall be of the minimum intensity and/or number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. In cases where residential uses are located within one-quarter mile of the WCF, then dual mode lighting<sup>[1]</sup> shall be requested from the FAA.
    - (iii) Security lighting for ground-level accessory equipment shall be down-shielded and of a type and intensity consistent with generally accepted dark sky lighting standards.
  - (H) *Setbacks.* support structures and related accessory equipment shall comply with the following setback requirements:
    - (i) If a freestanding support structure is to be constructed using breakpoint design technology, then the minimum setback shall be a distance equal to 110 percent of the distance from the highest point on the structure to the breakpoint level of the structure. Certification by an engineer of the breakpoint design and of the design's fall radius must be provided at the time of application, along with the other information required by this ordinance.
    - (ii) If a freestanding support structure is not to be constructed using breakpoint design technology, then the minimum setback distance for any such structure ~~100 feet or greater~~ in more than 100 feet in height shall be equal to 110 percent of the height of the proposed support structure.
    - (iii) The setback of any support structure from an abutting property may be reduced if an easement is obtained from the owner of the abutting property that restricts development within that portion of the fall zone which would extend onto the abutting property. Such fall zone easement shall be created by deed, acceptable to the county attorney, and it shall be recorded subsequent to County approval of any zoning applications and prior to the issuance of a building permit for the support structure. The setback of any support structure from the right-of-way for a public street may be reduced upon approval of VDOT and the County, without need for a fall zone easement.
    - (iv) All other WCFs shall be subject to the setbacks of the underlying zoning district. However, if an existing building or structure that is nonconforming as to any setback will serve as the support structure for a proposed WCF, then the existing nonconforming setback shall apply.
  - (I) *Equipment cabinets and compounds.*
    - (i) Equipment cabinets more than 3 feet in height shall not be visible from ground level. Cabinets may be located within a principal building, behind a screen on a rooftop, or on the ground within a fenced-in compound with landscape screening.
    - (ii) Where required, landscape screening shall consist of a 10-foot wide buffer planted with evergreen trees, minimum 2 inches caliper, 25-feet on center; evergreen shrubs capable of creating a continuous hedge and obtaining a height of at least 5 feet, planted 5-feet on center, minimum 3-gallon or 24 inches tall at the time of planting; or a combination of both. Alternative landscape plans or materials may be approved by the County, upon a determination by the County that a reasonably equivalent level of screening will be achieved. Existing mature tree growth and natural land forms on the property containing a WCF site shall be preserved to the maximum extent
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possible, and may be used in lieu of the required landscape screening, in whole or in part, upon a determination that a reasonably equivalent level of screening will be achieved.

- (iii) Equipment compounds shall not be used for the storage of any excess equipment or hazardous materials. No outdoor storage yards shall be allowed within a compound, and no compound may be utilized as habitable space.
- (J) *Fencing.* All freestanding support structures and associated equipment compounds shall be enclosed by a fence adequate to preclude unauthorized entry.
- (K) *Signs.* No signs shall be permitted on any WCF, other than the following:
  - (i) Signs required by the FAA or FCC shall be permitted;
  - (ii) Informational signs shall be permitted for the purpose of identifying the support structure (such as an ASR registration number), contact information for the party responsible for operation and maintenance of the facility, and contact information for the property manager (if applicable); and
  - (iii) Warning signs shall be permitted, if more than 220 volts are necessary for the operation of the facility and such voltage is present in a ground grid or in the antenna support structure. Any such signs shall be posted at 20-foot intervals on the fence or wall surrounding the facility and shall display in large, bold, high-contrast letters (minimum 4 inches in height) the words "DANGER—HIGH VOLTAGE".
- (L) *Federal standards for interference protection.* Each WCF shall comply with all applicable federal laws and regulations regarding interference protection, including but not limited to federal regulations regarding adjacent channel receiver (blanket) overload and inter-modulation distortion. Each applicant seeking an approval required by this ordinance shall provide a written certification at the time of application that the subject WCF shall comply with such regulations.
- (M) *Federal standards for radio frequency emissions.* Each WCF shall comply with all applicable federal laws and regulations regarding radio frequency emissions. At the time of application, the applicant shall provide a certification that radio frequency emissions from the WCF comply with FCC standards, and that, individually and cumulatively, and together with any other facilities located on or immediately adjacent to the proposed WCF, the proposed WCF complies with FCC standards. The certification shall be accompanied by a statement of the qualifications of the person providing the certification.
- (N) *Compliance with ANSI standards.* Each WCF shall comply with American National Standards Institute (ANSI) standards, as adopted by the FCC, pertaining to electromagnetic radiation. Each applicant seeking an approval required by this ordinance shall provide a written certification at the time of application that the subject WCF shall comply with such standards.
- (O) *Safety.*
  - (i) Each WCF and its accessory equipment shall be constructed in compliance with requirements of the Virginia Uniform Statewide Building Code.
  - (ii) Any time an antenna is added to an existing WCF located on a support structure in excess of 100 feet, the owner or operator of the antenna shall provide the County with an engineer's certification that the WCF can structurally accommodate the total number of antenna to be located on the WCF.
- (P) *Sounds.* No unusual sound emissions, such as alarms, bells, buzzers, etc. are permitted.
- (Q) *Abandonment.*

- (i) A WCF and its accessory equipment shall be removed, at the owner's expense, within 180 days of cessation of use, unless the abandonment is associated with a replacement support structure, in which case the removal shall occur within 90 days of cessation of use.
- (ii) A support structure which remains unoccupied by any antenna for a period of 180 consecutive days ("vacancy period") shall be removed within 60 days of the last day of the vacancy period, at the owner's expense.
- (iii) An owner who wishes to extend the time for removal shall submit an application stating the reason for the proposed extension. The Board may extend the time for removal or reactivation ~~up to 60 additional days~~ upon a showing of good cause. ~~If the WCF or vacant support structure is not removed within the extended time period, the County may give written notice that it will contract for removal of the WCF within 30 days following the notice. Thereafter, the County may cause removal of the WCF and the owner or corporate surety, if any, shall be responsible for payment of all costs incurred by the County to do so.~~
- (iv) If the WCF or vacant support structure is not removed within the time period required by this subparagraph, the County may give written notice that it will contract for removal of the WCF within 30 days following the notice. Thereafter, the County may cause removal of the WCF and the owner or corporate surety, if any, shall be responsible for payment of all costs incurred by the County to do so
- (v) Upon removal of a WCF and its accessory equipment, the site shall be returned to its natural state and topography, and shall be vegetated consistent with the natural surroundings or the current uses of the surrounding or adjacent land at the time of the removal.
- (vi) ~~With respect to The owner of each freestanding WCF and its accessory equipment having a combined value of more than \$25,000: the owner of each such facility approved on or after \_\_\_\_\_, 2008 shall furnish to the County a performance bond in the sum of the cost of construction thereof, conditioned upon the faithful performance of the obligations of this section. Such bond shall be in a form and amount satisfactory to the County. Each bond shall be executed by one or more surety companies authorized to do business in Virginia. Upon a determination of the County attorney that the alternative form of security affords protection to the County equivalent to a corporate surety's bond, The County will allow the owner of a facility to furnish a cash escrow or a bank or savings institution's letter of credit on certain designated funds in the same amount required for a bond. Such bond or alternative security shall be maintained by the original principal until the County receives a replacement bond or alternative security from the principal's successor in interest.~~

#### **14-13-7. New, freestanding WCF.**

- (A) No new or mitigated freestanding WCF shall be permitted unless the applicant demonstrates that no existing WCF can accommodate the WCF facilities or is suitable, as to design or location.
- (B) In any R-1, R-2 or R-3 zoning district, new freestanding WCFs (other than those mounted on a utility pole) shall only be permitted on lots whose principal use is not single-family residential.

#### **14-13-8. Mitigation of existing freestanding WCF.**

- (A) An existing WCF may be modified in order to mitigate the impact of that facility. Mitigation must accomplish a minimum of one of the following objectives: (i) reduce the number of WCFs; (ii) reduce the number of nonconforming WCFs; or (iii) replace an existing WCF with a new WCF to improve network functionality resulting in compliance with this ordinance. No WCF shall be mitigated more than one time. Upon completion of mitigation, the owner of the mitigated WCF shall provide the County with evidence that at least one of the above-referenced objectives has been achieved.

- (B) The height of a mitigated WCF shall not exceed 115 percent of its original height ~~(for example: a 250 foot existing tower could be rebuilt at 287.5 feet).~~
- (C) A new WCF approved for mitigation of an existing WCF shall not be required to meet new setback standards, so long as the new WCF and its equipment compound are no closer to any property lines or dwelling units than the facility being mitigated.
- (D) Except as set forth within paragraphs (B) and (C), above, a mitigated WCF shall be brought into compliance with the requirements of 14-3-5.

#### **14-13-9. Interference with public safety communications.**

In order to facilitate the regulation, placement and construction of each WCF, and to ensure that all parties are complying to the fullest extent possible with the rules, regulations and guidelines of the FCC, each owner of a WCF, and each applicant (if different than the owner) shall agree in a signed written statement to the following:

- (1) Compliance with "Good Engineering Practices" as defined by the FCC in its rules and regulations.
- (2) Compliance with FCC regulations regarding susceptibility to radio frequency interference, frequency coordination requirements, general technical standards for power, antenna, bandwidth limitations, frequency stability, transmitter measurements, operating requirements, and any and all other federal statutory and regulatory requirements relating to radio frequency interference (RFI).
- (3) In the case of an application for co-located telecommunications facilities, best efforts will be made to provide a composite analysis of all users of the site, to determine that the proposed facility will not cause radio frequency interference with the County's public safety communications equipment and will implement appropriate technical measures to attempt to prevent such interference.
- (4) Whenever the County encounters radio frequency interference with its public safety communications equipment, and it believes that the interference has been or is being caused by a WCF, then:
  - (i) The County will notify the WCF service provider of possible interference with the public safety communications equipment. Upon such notification, the owner shall utilize its best effort to cooperate and coordinate with the County and among themselves to investigate and mitigate the interference, if any, utilizing the procedures set forth in the joint wireless industry-public safety "Best practices Guide" released by the FCC in February 2001, including the "Good Engineering Practices," as such have been or may be amended or revised by the FCC from time to time.
  - (ii) If the WCF owner fails to cooperate with the County in complying with its obligations under this subsection, or if the FCC makes a determination of radio frequency interference with the County's public safety communications equipment, the owner who failed to cooperate or whose facility caused the interference shall be responsible for reimbursing the County for all costs associated with ascertaining and resolving the interference, including but not limited to any engineering studies obtained by the County to determine the source of the interference. For purposes of this subsection, failure to cooperate shall include failure to initiate any response or action described in the "Best Practices Guide" within 24 hours of the County's notice.

#### **14-13-10. Submission requirements.**

For each proposed WCF, an applicant shall submit a completed application form and required application fees (as set forth on the most recent fee schedule approved by the Board along with a site plan containing or supported by the following information:

- (1) An affidavit by a radio frequency engineer certifying compliance with the alternatives hierarchy set forth in section 14-13-5. If a lower-ranking alternative is proposed, the affidavit must provide specific factual information explaining why higher-ranked options are not technically feasible, practical or justified
- (2) Evidence of the current ownership of the subject property
- (3) If the applicant is not the property owner, proof that the applicant is authorized to act upon the owner's behalf.
- (4) All applicable certifications, assurances and written agreements required by this ordinance.
- (5) Proposed maximum height of the WCF, inclusive of the base, the antenna support structure, antennas and lightning rods.
- (6) Proposed exterior paint and stain samples for any components to be painted or stained.
- (7) GPS coordinates for the WCF.
- (8) Antenna mounting elevations and power levels of the proposed antenna, and all of the mounting elevations and power levels of any other WCF facilities located on the same site.
- (9) Materials detailing the locations of existing WCFs to which a proposed WCF will be a handoff candidate, including GPS coordinates, latitude, longitude and power levels of the proposed and existing antennas.
- (10) A radio frequency propagation plot, indicating the coverage of the applicant's existing WCF sites, coverage prediction and design radius, together with a certification from the applicant's radio frequency engineer that the proposed facility's coverage or capacity potential cannot be achieved by any higher-ranked alternative; and
- (11) A map showing the designated search ring.

(B)The following information shall be provided, in addition to the requirements of subparagraph (A), above, for any WCF which requires approval of a special use permit:

- (1) ~~Seventeen (17)~~ Two sets (24" x 36") of a site plan for the proposed WCF, signed and sealed by a surveyor or engineer licensed by the Commonwealth of Virginia, including antenna support structure elevations, plans for any landscaping and fencing required, plus 17 sets (11" x 17"). ~~Two (2) reduced copies (8.5" x 11") of a grading plan may be included on the site plan, or the grading plan may be separately submitted in equal quantities.~~ Each site plan shall also meet applicable requirements of the County's site plan ordinance.
- (2) One (1) original and 2 copies of a survey of the proposed WCF site, signed by a professional surveyor licensed in the Commonwealth of Virginia.
- (3) Photo-simulated post-construction renderings of the completed WCF, from locations to be determined during a pre-application conference with the zoning administrator.
- (4) A balloon test for any proposed freestanding WCF in excess of 100 feet, in order to demonstrate the height of the proposed WTF. The applicant shall arrange to raise a colored balloon, no less than 3 feet in diameter, at the maximum height of the proposed WTF and within 50 horizontal feet of the center of the proposed antenna support structure.
  - a. The applicant shall inform the zoning administrator and adjacent property owners in writing of the date and times of the test, at least 14 days in advance. The date, time and location of the balloon test shall be advertised in a locally distributed paper by the applicant, once per week for 2 weeks in advance of the test date. The balloon shall be flown for at least 4 consecutive hours during daylight hours on the date chosen. The applicant shall record the weather during the balloon test.
  - b. Re-advertisement will not be required if inclement weather occurs—the original advertisement should direct readers to an alternate date.
- (5) A report and supporting technical data demonstrating that all potentially usable elevated structures within the proposed service area, and alternative antenna configurations, have been examined and found unacceptable, for one of the following reasons:
  - a. No existing WCF in the geographic area meets the applicant's engineering requirements, and a written statement explaining in detail the requirements and the reason for this conclusion.

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- b. No existing WCF in the geographic area is of sufficient height to meet the applicant's engineering requirements or can be increased in height to meet those requirements, and a written statement explaining in detail the requirements and the reason for this conclusion.
  - c. No existing WCF in the geographic area has sufficient structural integrity to support the applicant's proposed WCF or can be sufficiently improved to provide such support, and a written statement identifying the specific WCFs that were investigated and the reasons for this conclusion.
  - d. Other limiting factors render other existing WCFs in the geographic area unsuitable, and a written statement explaining in detail the reasons for this conclusion.
- (6) A written statement, supported by technical data identifying any existing service gap that will be addressed by the proposed WCF, and accompanying maps and calculations, or other data demonstrating the service gap. For the purpose of this paragraph, the term "service gap" means a defined geographic area in which there is a demonstrable, consistent absence of any signal.
- (7) ~~A vicinity map delineating the location and classification of all major public or private streets and rights-of-way, driveways, public parking areas, pedestrian ways, trails and bikeways within 500 feet of the site of the proposed WCF including zoning district boundaries, on a 24" x 36" sheet, together with a list of property owners within 1,000 feet in agriculturally zoned, and 500 feet in all other districts, of the subject property. The list must be compiled from the most current ownership information supplied by the commissioner of revenue's office.~~
- (8) A written statement that the proposed WCF meets the alternatives hierarchy. In the event that the proposed WCF is of a lower degree of preference than a concealed freestanding WCF the applicant shall demonstrate that concealment technology is unsuitable for the proposed facility. Cost of concealment technology that exceed facility development costs of the proposed WCF shall not be presumed to render the technology unsuitable.
- (9) A written statement provided by a professional engineer licensed by the Commonwealth of Virginia, specifying the design structural failure modes of the proposed WCF.
- (10) Identification of the intended service providers who will operate the WCF.
- (11) Proof of approval by the Virginia Department of Historic Resources, State Historic Protection and Preservation Office, or a certification that no such approval is required.
- (12) A copy of any material submitted to the U.S. Fish and Wildlife Service, or a certification that no submission to the FWS is required for the proposed facility.
- (13) A pre-application conference will be required for a new freestanding WCF. The applicant shall demonstrate that the following notice was mailed by certified mail to all other wireless service providers licensed to provide service within the County: *"Pursuant to the requirements of the Madison County Zoning ordinance, we are hereby providing you with notice of our intent to meet with County staff in a pre-application conference to discuss the location of a free-standing wireless communication facility that would be located at \_\_\_\_ (insert physical address, latitude and longitude (NAD-83)). In general, we plan to construct an antenna support structure \_\_\_\_ (insert number) feet in height for the purpose of providing (insert type of wireless service). Please inform County staff if you have any desire for placing additional WCF or equipment within 2 miles of our proposed facility. Please provide us with this information within 20 business days after the date of this letter."*

(C) The following shall be provided *in lieu of* the requirements set forth in subsection (A), above, for any replacement of an existing antenna or support structure:

- (1) A written statement setting forth the reasons for the replacement.
- (2) A signed statement from a qualified professional, together with a statement of his qualifications, certifying that the radio frequency emissions from the WCF meet FCC standards for such emissions and that, both individually and cumulatively, and with any other facilities located on or immediately adjacent to the WCF, the replacement antenna complies with FCC standards.
- (3) A structural analysis of the existing WCF prepared by an engineer licensed by the Commonwealth of Virginia, indicating that the existing or replacement support structure, and all existing and proposed attachments thereto, meet Virginia Uniform Statewide Building Code requirements (including wind loading).

#### **14-13-11. Relation to Other Zoning Regulations.**

(A) *Principal or accessory use.* WCFs may be considered either principal or accessory uses. An existing structure or existing use already established on the same lot shall not preclude the installation of a WCF on such lot.

(B) *Relation to other zoning district regulations.* For purposes of determining whether the installation of a WCF complies with zoning district regulations, ~~including but not limited to setback and lot coverage requirements~~, the dimensions of the entire lot shall control, even though the WCF may be located on leased areas within such lots. In the event of a conflict between any requirements of this section and the requirements of a particular zoning district, the more restrictive requirements shall govern; however, the height limitations and setbacks applicable to buildings and structures within each zoning district shall not apply to WCFs.

#### **14-13-12. Non-conforming uses.**

(A) *Impact of installation on non-conforming uses.* A WCF that is constructed or installed in accordance with the provisions of this ordinance shall not be deemed to constitute the expansion of a nonconforming use or structure, other than a nonconforming WCF.

(B) Existing WCFs may continue in use for the purpose now used, but may not be expanded or replaced without complying with this ordinance, except as further provided in this section.

(C) Existing WCFs which are hereafter damaged or destroyed due to any reason or cause may be repaired and restored to their former use, location and physical dimensions (subject to obtaining a building permit) but shall be required to meet the requirements of sections 14-3-5 (L), (M), (N), (O), (P) and (Q) of this ordinance.

(D) The owner of any existing telecommunications facility may replace, repair, rebuild and/or expand such telecommunications facility to accommodate co-located antennas or facilities, or to upgrade the facilities to current engineering, technological or communications standards (subject to obtaining a building permit) without having to conform to provisions other than sections 14-3-5 (L), (M), (N), (O), (P) and (Q) of this ordinance.

#### **14-13-13. Definitions.**

*"Accessory equipment"* means any equipment serving or being used in conjunction with a WCF. This equipment includes, but is not limited to, utility and transmission equipment, power supplies, generators, batteries, cables, equipment buildings, cabinets and storage sheds, shelters and other structures.

Enacted: February 4, 2009

Supervisors' Vote: "Aye" Powers, Dean, Crigler, Miller; "Abstain" Arrington

"*Antenna*" means any structure or device used for telephonic, cellular, data, radio, or television communication through the sending and/or receiving of electromagnetic waves. Such structures and devices include, but are not limited to, directional antennas (such as panels, microwave dishes and satellite dishes) and omni-directional antennas (such as whips), and antenna arrays.

"*Board*" means the Board of Supervisors of Madison County, Virginia.

"*Breakpoint technology*" means the engineering design of a monopole such that a specified point on the monopole is designed to have stresses concentrated so that the point is at least five percent (5%) more susceptible to failure than any other point along the monopole, and in the event of a structural failure of the monopole the failure will occur at the breakpoint rather than at the base plat, anchor bolts or any other point on the monopole.

"*County*" means the County of Madison, Virginia, a political subdivision of the Commonwealth of Virginia and, in appropriate context, to the governing Board, its officials, officers and employees.

"*Engineer*" means an engineer licensed within the Commonwealth of Virginia.

"*Existing WCF*" means any WCF that was placed, built, erected, or for which a special use permit had been approved by the Board on or before X, 200X

"*FAA*" means the Federal Aviation Administration.

"*FCC*" means the Federal Communications Commission.

"*Fall zone*" means the area surrounding a support structure centered upon the support structure and encompassed within a radius equal to 110 percent of the total height of the support structure.

"*Handoff candidate*" means a WCF that receives call transference from another WCF, usually located in an adjacent first "tier" surrounding the initial WCF.

"*Mitigation*" means a modification of an existing support structure in order to bring the structure into compliance with the requirements of this ordinance, to improve aesthetics, or to improve the functionality of the overall wireless network of which the facilities located on the support structure are a part.

"*Monopole*" means a structure to support antennas and related wireless equipment consisting of a single self-supporting pole, constructed without any external bracing, guy wires or similar attachments.

"*Support structure*" means a freestanding, guyed or self-supporting structure designed to support telecommunications facilities, including but not limited to lattice-type towers, monopoles and utility poles.

"*Utility pole*" means a wooden pole, 100 feet or less ~~than 100 feet~~ in height, of the type typically utilized by telephone and electric utility companies.

"*WCF*" means a wireless communications facility, and refers to any manned or unmanned facility established for the purpose of providing wireless transmission and/or reception of voice, data, images or other information, including, but not limited to cellular telephone service, personal communications service (PCS) and paging service. A WCF usually consists, collectively, of an antenna, a support structure, and accessory equipment. However, as used in this ordinance "WCF" may refer, in appropriate context to an individual antenna and its accessory equipment. and facilities used for non-commercial access to communications services, installed at a consumer's location.

*Enacted: February 4, 2009*

*Supervisors' Vote: "Aye" Powers, Dean, Crigler, Miller; "Abstain" Arrington*

*"Attached WCF"* means a WCF that is secured to an existing building or structure. An attached WCF shall be considered to be an accessory use to the existing principal use on a site.

*"Co-located WCF"* means any one of multiple WCFs operated by multiple carriers, service providers or licensees on a shared support structure.

*"Concealed WCF"* means a WCF that is hidden or camouflaged so that it is not readily identifiable as such, and that is designed to be aesthetically compatible with the surrounding natural environment and/or existing and proposed buildings and uses on a site. Examples of a concealed WCF include: man-made trees, silos, clock towers, steeples and bell towers, street light poles, and similar alternative mounting structures.

*"Freestanding WCF"* means a WCF utilizing a support structure.

**AND BE IT FURTHER ORDAINED THAT** this ordinance shall take effect upon its adoption and shall apply to all WFCs that have not been finally approved prior to that date.